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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/073,426	02/11/2002	Cory Watkins	1552-CA-1	3969

37974 7590 05/11/2005

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EXAMINER

PHAM, HOA Q

ART UNIT PAPER NUMBER

2877

DATE MAILED: 05/11/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

H.A

Office Action Summary	Application No.	Applicant(s)	
	10/073,426	WATKINS ET AL.	
	Examiner	Art Unit	
	Hoa Q. Pham	2877	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 February 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-8 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

- a. The new added limitation "...repeated passes of one of the light source and the substrate relative to the other of the light source and the substrate" in claim 1 is not vague and indefinite because it not clear what applicant is trying to claim. Should it be changed to -- repeated passes the light source at different optical elevations relative to the substrate --?

- b. claims 2-7 depend on claim 1, therefore inherent the deficiencies of the claim

- 1.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-2, 8-9, 16 and 20-21 are rejected under 35 U.S.C. 102(b) as being anticipated by Ishihara (5,737,084).

Regarding claims 1, 8 and 16, Ishihara discloses a confocal imaging system comprises a light source (6) (figures 2, 5, 10), a non-laser confocal sensor (9), wherein the confocal imaging system is adapted to rapidly determining heights of projections on a substrate based upon light intensities identified during a plurality passes, wherein the confocal sensor is stationary relative to the light source during pass (see figures 2, 5, 10, 11, 12 and column 2, line 49 through column 3, line 10).

Regarding claims 2 and 9; see column 2, lines 63-64 for a CCD camera.

Regarding claims 8 and 21, see column 2, line 50, for a white light source.

Regarding claim 21, there is no Nipkow disk in the system of Ishihara.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 3-7, 10-15 and 17-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ishihara in view of McCarthy et al (4,802,748) (of record).

Regarding claims 3, 4, 10-11, 14, and 18; Ishihara discloses all the features of claim 5 except that the beam splitter is a pellicle beam splitter. However, such a feature is known in the art as taught by McCarthy et al. McCarthy et al, from the same field of endeavor, discloses a confocal scanning microscope in which the pellicle beam splitter is used (col. 3, lines 43-45). It would have been obvious to one having ordinary skill in

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the art at the time the invention was made to replace the beam splitter (2) of Ishihara by a pellicle beam splitter as taught by McCarthy et al because the pellicle beam splitter is extremely thin so as not to double the image or introduce astigmatism as suggested by McCarthy (column 3, lines 43-45).

Regarding claims 5, 6, 7, 12-14, and 18; Ishihara does not explicitly teach the use of plural lenses in the object imaging system and the camera system; however, such use of plural lenses in each of imaging system is known to one skilled in the art for the purpose of providing means for focusing and/or varying the magnification. Thus, it would have been obvious to one skilled in the art at the time the invention was made to utilize the system provided by Ishihara in an inspection system having objective system and camera system with plural lenses for the purpose of providing means for adjusting the focus and/or magnification of the whole inspection system.

Regarding claims 15 and 19, see column 2, line 50 and column 9, lines 46-49 for the use of white light source.

7. Applicant's arguments with respect to claims 1-21 have been considered but are moot in view of the new ground(s) of rejection.

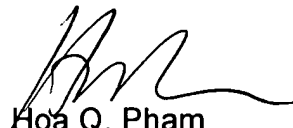
8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Watkins et al (6,731,383) discloses a confocal 3D inspection system.

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9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hoa Q. Pham whose telephone number is (571) 272-2426. The examiner can normally be reached on 7:30AM to 6 PM, Monday through Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory J. Toatley, Jr. can be reached on (571) 272-2800 ext. 77. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Hoa Q. Pham
Primary Examiner
Art Unit 2877

HP
May 10, 2005